

REMARKS

In compliance with the requirement of paragraph 2 of the Official action, Invention I, claims 7, 9, 13, and 15-19, is hereby elected. Claims 12 and 14, directed to Invention II, are retained for possible presentation in a continuing application. New claims 20-24 are directed to the invention of Fig. 6 and new claim 25 is directed to the invention of Figs. 9 and 10; it is anticipated that these claims will be withdrawn from consideration because of the constructive election of the original claims.

The amendments requested above are believed to have overcome the various objections stated in the subject Official action. For example:

The amendment to page 1 complies with the requirement in the second paragraph of page 2 of the Official action that the specification be amended; a new declaration being submitted herewith complies with the other requirement of that paragraph.

The amendment to claim 9 overcomes the objection stated in the paragraph which bridges pages 4 and 5 of the action.

The foregoing requests for amendment of paragraphs on pages 1 and 44, and bridging pages 24 and 25 are in accord with the procedure stated under the heading "B) Amendments to the specification" of a flyer dated "02/13/03, and entitled "Revised Notice AMENDMENTS MAY NOW BE SUBMITTED IN REVISED FORMAT"

The rejection of claims 7 and 9 under 35 U.S.C. 102 (e) as being anticipated by Murdock, US patent No. 6,085,485 is respectfully traversed. The rejection is explained as follows in the second paragraph on page 6 of the Official action:

"Murdock teaches all the limitations of the above claims including a body (84) of thermoset cellular urethane (column 1, lines 11-20), body being right rectangular

parallelepipedal in shape (Figure 7), two opposed major surfaces with sheet metal layers (76, 78) mechanically and chemically bonded to the body.”

The following also appears on page 6 of the Official action, under the heading “Response to Arguments”.

“The Applicant provides arguments and discussion of prior art in the arguments but fails to address the rejection of Murdock, except with a general statement that the reference does not teach the invention. Since the foam is poured into the metal outer surfaces the chemical process of hardening causes the mechanical bonding of the urethane body and the metal sheet.”

The applicant finds nothing in Murdock that supports the second sentence of the above-quotation. There is no suggestion of a chemical process of hardening; there is no suggestion of mechanical bonding of a urethane body to a metal sheet. Indeed, an electronic search of the full text record for US patent No. 6,085,485 from the USPTO Patent full text database (which is available at www.uspto.gov) revealed only the following four occurrences of “urethane”

“A common type of building panel includes a pair of planar surfaces consisting of sheet metal skins, interspersed with a polymer foam such as polyurethane or polystyrene; which results in a panel of light weight.” (column 1, lines 15-19)

“Also interspaced within this framework of upper and lower skins and "Z" or "C" section member, is the intermediate insulating and fire retardant core of foam polymer high density urethane.” (column 2, lines 48 -53”

“The urethane fire retardant core is of high density, which is adapted to varying specifications depending on application and panel thickness. This urethane core fills fully all the spaces and vacant interstices within the panel once the continuous member steel "Z" or "C" section has been placed and secured to the top and bottom steel sheaths of the panel, such as by stitch welding.” (column 8, line 67 to column 9, line 6)

The reference does not support the assertion in the rejection that its "sheet metal layers (76, 78) [are] mechanically and chemically bonded to the body", stating only (column 1, lines 11-20):

"In previous patented designs, there have been a large variety of modular building panels including pre-fabricated panels of many types. A common type of building panel includes a pair of planar surfaces consisting of sheet metal skins, interspersed with a polymer foam such as polyurethane or polystyrene; which results in a panel of light weight. Other panels have been designed with a honeycomb material within the planar skins, to create a lightweight panel with great insulation values."

Claims 7 and 9 require the "surface layer of another material" to be "chemically and mechanically bonded to at least one of the opposed major surfaces." The following paragraphs from the instant application (paragraph bridging pages 24 and 25, and the following paragraph) demonstrate the importance of the "mechanically and chemically bonded" limitation of the claims:

"An aluminum member having the shape of the floor 19, but made from thin sheet material, was used to produce a structural member similar to a part of the member 10. The specific member used was so thin that, when it was suspended between two supports which extended transversely of its channels, and were separated from one another by twelve inches, a load applied in the center of the member caused it to collapse before available instrumentation indicated the magnitude of the load. An identical aluminum member was then placed in the mold 14 (FIG. 11); the mold was charged with 568 g per 929 cm² of the intermediate/isocyanate composition produced as described above with reference to FIG. 1; a sheet of thin polyethylene was placed over the foamable composition; a sheet of expanded polystyrene was placed in the mold, above the polyethylene sheet; and the lid 17 was closed, and clamped shut. The composition expanded to fill the available space inside the mold 14, and cured to such an extent that it could be removed from the mold after about 10 minutes; it had an apparent density of about 0.20 gm per cc. After the foamed composition had cured for about 48 hours, the member, when it was suspended between two supports which were circular in cross section and extended transversely of its channels, and were separated from one another by twelve inches on centers, withstood a load of 4560 pounds before failure. The load was applied by a member that was circular in cross-section, that extended laterally across the structural member, and that was spaced six inches on centers from each of the supports. A sharp noise from the

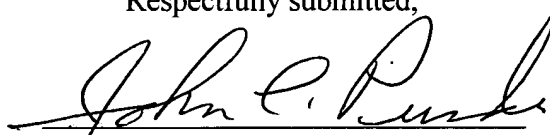
member was deemed to indicate failure; it was determined that the foam had pulled away from the metal, and that the metal had collapsed.

"The procedure described in the previous paragraph was repeated, except that the aluminum member was lined with a thin polyethylene sheet before the foamable composition was poured therein. The polyethylene sheet prevented the foam from adhering to the aluminum so that a body of the foam could be removed from the mold after foaming and initial cure. After the foam had cured for about 48 hours, it was suspended as described above and subjected to a load applied as described. Failure occurred at an applied load of 700 pounds."

Murdock does not anticipate claims 7 and 9 because it does not disclose the "chemically and mechanically bonded" limitation of the claims; in view of the information in the two paragraphs quoted above, the claimed subject matter as a whole of claims 7 and 9 would not have been obvious from Murdock, at the time the instant invention was made, to a person having ordinary skill in the relevant art. Reconsideration and withdrawal of the rejection of claims 7 and 9 on Murdock and an action on the merits of the claims which have been held to be "withdrawn" are respectfully requested.

Favorable action is solicited.

Respectfully submitted,



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